Result Page

The instant invention concerns a Cabriolet in accordance with the preamble of Claim 1.

A such vehicle is known from the EP 0,362,524 B1. The rollbar of the known Cabriolets is swing-out, whereby in its countersunk position the handle thighs are in almost horizontal position and become when swinging out into a vertical position brought. Handle bowl and handle thighs of the known rollbar are integrally formed, whereby the arrangement is in the countersunk position like that that from the passenger from the seen handle bowl the rear handle thighs is. This a possible space-saving arrangement of the handle bowl the bottom first part two-piece covering box cover vehicles with a single, over the entire width of vehicle extending rollbar have opposite such vehicles, which two a rear in each case seat exhibit hidden rollbars, price advantage due to the smaller manufacture and assembly costs for the rollbar. In addition they offer opposite single, punctually the vehicle to supporting rollbars an increased safety. On the other hand however a so called drawer effect is to be perhaps observed with such wide rollbars, with which the rollbar blocks itself due to manufacturing tolerances or synchronization lacking of the drives located at the handle thighs and not into its complete swung out and/or. extended position brought will can, if a Crash case is present. This brings fatal sequences with itself, which are to be avoided bottom all circumstances. The well-known overroll bar points out as a solution type to let attack in the center of its handle bowl a Luftsack which is released in well-known way pyrotechnically in a Crash case and which overroll bar puts up. A such airbag makes however each price advantage destroyed and needs still another own building area in the vehicle.

The task of the available invention consists therefore of creating an overroll bar of the kind initially specified with which this drawer effect from inexpensive way is avoided.

This object becomes dissolved in connection with the characterizing features of the claim 1. The principle of the instant invention consists thus of it, a not synchronized driving out and/or. To adjust swinging out movement by an articulated storage that the two handle thighs interconnecting handle bowl. Then is not it any longer of importance whether one precedes the handle thigh the other one little.

If it concerns an extensible rollbar, with which thus the handle thighs possess into more brought in as in extended position a vertical alignment, is the articulations between the handle thighs and the handle bowl to be attached in such a way that the handle bowl can implement a pivotal movement, whose axis lies in vehicle longitudinal direction around the ends of the handle thighs. With a swing-out overroll bar the Gelenkachsen in the extending direction of the handle thighs would be to be arranged, since an angle between the handle thighs is to be adjusted here.

Because of the high actuating forces, which become free when driving out overroll bars, it is advisable to provide the joints with flexible damping media for example by the use of rubber-stored hinge pins.

By so effected tolerance reconciliation it is possible that only one will provide the handle thigh with a locking device, which for example by means of a Crash magnets or by other release devices due to a Crash signal dissolved becomes.

▲ topThe other handle thigh can become indirect by the movement of the first handle thigh dissolved, whereby the driving out or swinging out movement of the first handle thigh can become used to solve on mechanical paths a second locking device at the second handle thigh.

It can be for example a push pull cable intended or however a very simple and inexpensive mechanical solution in form of a ramp attached at the first handle thigh, which operates an unblocking bar, as soon as the first handle thigh is unlocked and drives out and/or. - swivels. The unblocking bar can affect then the locking device of the second handle thigh and solve these, so that the second handle thigh takes up its movement light delayed to the first handle thigh.

Tolerance reconciliation with the sequence, effected by the articulated connection between handle thighs and handle bowl that a synchronization of the driving out movement of the two handle thighs is required no longer, a permitted inexpensive reciprocal feather/spring drive of the handle thighs without mechanical coupling.

Also a such extensible rollbar can become good the rear passenger compartment in a cavity housed and has besides opposite a pivotal rollbar the advantage that the side portions beside the passenger compartment remain unaffected by the rollbar and place to offer for example for a side impact protection.

To the protection of the cavity, housed in which the rollbar is in brought in position, it is advisable to attach at the handle bowl a cover which locks the cavity. This mounting has the advantage that not first a lid must become opened, before the rollbar can be driven out. The cover is then driven out together with the rollbar, which affects the function of the rollbar in no manner.

A closer explanation of the invention thought made now on the basis the description of a drawing in two figs. It shows:

Fig. 1 a side view of a rollbar for a Cabriolet according to invention,

Fig. 2 a cross section by a rollbar after Fig. 1.

The rollbar after Fig. 1 exhibits a first handle thigh 1 and a second handle thigh 2, which in each case at a side of the vehicle fixed is. At their upper end they are connected over a handle bowl 3. With the represented rollbar the handle thighs 1 and 2 a quasi eyeglass-like profile possess themselves, as from Fig. 2 to infer leaves. This is to be understood however for the invention not restrictivy, since in principle handle thighs of each organization use can find. The handle thighs 1 and 2 are in each case in a guidance cartridge 4 and/or. 5, which at the vehicle in a cavity the rear passenger compartment fixed is, vertical displaceable guided. For the drive of the overroll bar everyone of the guidance cartridges 4 and 5 is a guide tube 6 in each case and/or at the soil. 7 fixed, in which in each case a compression spring 8 and/or. 9 disposed is, those at its upper end at the handle thigh or at least at an extensible part of the rollbar fixed stop 10 and/or. 11 applied.

A particularity of the rollbar consists now of the fact that the handle bowl 3 with the handle thighs 1 and 2 over articulations 12 and/or. 13 connected is. For this 3 above the compression springs 8 and 9 bearing supports are 14 and 15 fixed at the

project in to the receptacle of the guide tubes 6 and 7 serving executions in the handle thighs 1 and 2, whereby by each other associated bearing [illegible]res a rubber-stored hinge pin guided and riveted [illegible]. This leaves itself best on the basis Fig. 2 by the handle thigh 2 rec[illegible]e, whereby the associated hinge pins with the [illegible]ence numeral 17 is provided.

From the two handle thighs only the handle thigh possesses 1 and 2 1 releasable locking device 18 automatic in the Crash case. This is not in the detail shown, can however to a known locking device with Crash magnet correspond, whereby the Crash magnet becomes dependent of the signal of a Crash sensor operated and solves a locking hook or a similar. The release can take place naturally also pyrotechnic with the help of a pin-discharging or - drawing in cartridge.

The handle thigh 2 possesses only a locking bolt 19, which 20 held in brought in position of a locking hook becomes, which 5 fixed at the guidance cartridge is. The locking hook 20 is integral made with a pivoting lever 21, is 22 articulated fixed at whose end an unblocking bar. The unblocking bar 22 runs horizontal underneath the handle bowl 3 to the handle thigh 1. There them are again articulated 23 fixed at an operation lever. The operation lever 23 is more pivotal around an hinge axis, which is stationary at the guidance cartridge 4. It is by means of one likewise at the guidance cartridge 4 fixed compression spring 24 in such a manner applied that the locking position of the locking hook becomes 20 2 favored at the handle thigh. In order to solve the locking device 19, 20 at the handle thigh 2, the operation lever 23 more pivotal by a ramp 25 is. The ramp 25 is fastened to the handle thigh 1, whereby the end of the lever 23 due to the compression spring 24 permanently against the ramp 25 present from the unblocking bar seen beyond its Gelenkachse rests. Upward by unblocking of the bolting device device if the handle thigh 1 moves 18, then the end of the lever 23 at the ramp 25 drives along and around the drag axis is swivelled. Due to the stationary storage of the operation lever 23 moved itself the unblocking bar 22 against the compression spring 24, so that the locking hook away-swivels 20 from the locking bolt 19 and releases the second handle thigh 2. Also this can drive now due to the pressing force of the compression spring 9 analogue to the first handle thigh 1 out.

Indeed is it like that that the first handle thigh 1 must upward-move first a small piece of D, so that the second handle thigh 2 can be unlocked. The order of magnitude of this upward movement is however a very small. At the most about 1 cm concerns few millimeters, after which the second handle thigh 2 follows. This corresponds to an inclination alpha of the handle bowl 3 from few tenths degrees of angle.

As is the case for each extensible rollbar, then an other locking device is also here provided, which holds the rollbar in its extended position, in order to prevent with a Crash case that the rollbar becomes pressed due to a from the outside applied force again into its brought in position. This locking device can correspond to the state of the art and is here not shown. For example a known rack arrangement comes into question, which cooperates with a corresponding tooth lever. Whether the rack at the handle thigh and the tooth lever at the guidance cartridge or different mounted are, decided can become in individual cases.

Handle thighs 1 and 2 and the handle bowl of 3 separate components, which become only assembled ones, are according to invention. Thereby a free material choice for the parts results. The handle bowl can be depending upon load from sheet formed or be from an extruded section or a pulled profile made of steel or aluminium made. The represented handle thighs 1 and 2 are manufactured from an extruded section.

The invention possible by the rollbar an improved protection of the passengers opposite two single, extending over the entire width of vehicle, narrow rollbars, whereby tilting becomes effective prevented during a driving out movement on inexpensive manner.